



Contribution ID: 586

Type: Parallel Talk

## Search for baryon-number-violating and lepton-flavor-violating decays at Belle

*Saturday, 9 July 2022 15:55 (17 minutes)*

We report the results of the search for baryon-number-violating decay  $B^- \rightarrow \bar{\Xi}_c^0 \Lambda_c^-$ . We use a data sample containing 772 million  $B\bar{B}$  pairs collected by the Belle detector operating at the asymmetric  $e^+e^-$  collider KEKB. The results can be interpreted in terms of the previously-discovered Standard Model decay  $B^- \rightarrow \bar{\Xi}_c^0 \Lambda_c^-$ , followed by  $\Xi_c^0 - \bar{\Xi}_c^0$  oscillations. The measurements of baryon-number-violating oscillations in the heavy-baryon sector provide an avenue to investigate the origin of matter-antimatter asymmetry of the universe. The searches of lepton-flavor-violating decays, including  $\Upsilon(1S) \rightarrow \ell\ell'$  ( $\ell = e, \mu; \ell' = e, \mu, \tau$ ), and  $B \rightarrow \ell\tau$ , are also reported in this presentation.

### In-person participation

Yes

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